

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: P. H. Nguyen; Art Unit: 3724; Docket No.: 3208

**In RE: US National Stage Application of T. John, et al
Based on PCT/EP 2003/008417**

Ser. No.: 10/523,850

Filed: February 7, 2005

**Title: METHOD FOR CUTTING A CONTINUOUS GLASS
SHEET DURING THE PRODUCTION OF FLAT
GLASS**

June 17, 2010

SUPPLEMENTAL APPEAL BRIEF

Hon. Commissioner of Patents
and Trademarks,
Washington, D.C. 20231

Sir:

In response to the final Office Action mailed February 18, 2010 after reopening prosecution following a first appeal, please reinstate the appeal and consider the following arguments for overturning the rejection of claims under 35 U.S.C. 103 (a) in the following supplemental brief:

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I. REAL PARTY IN INTEREST

The real party in interest is SCHOTT AG, which owns 100 % of the above-identified U.S. Patent Application.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

III. STATUS OF THE CLAIMS

1. Claims 1 to 28 were canceled; claims 29 to 35 are currently pending.

2. Method claims 29 to 35 stand rejected as unpatentable under 35 U.S.C. 103 (a) over U.S. Patent 3,880,028, issued to W. Fredrick, Jr., in view of D. A. Bier, et al, U.S. Patent 3,756,104, and D. J. Bauer, U.S. 5,744,776.

IV. STATUS OF AMENDMENTS

1. A request for reconsideration has not been filed in response to the final Office Action mailed February 18, 2010 after reopening prosecution on the merits of the claims.

2. The rejection of the pending claims as anticipated under 35 U.S.C. 102 (b) by W. Fredrick, Jr. has been withdrawn in response to the appeal brief filed on November 10, 2009.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The page and line numbers in parentheses in the following summary of the claimed subject matter refer to the location of that subject matter in the appellants' original specification filed February 7, 2005.

A. Independent Method Claim 29

Claim 29 covers a method of cutting a continuously moving glass sheet with a cutting tool that encounters different glass sheet thicknesses in different regions of the glass sheet as it travels across the glass sheet from one side to the other. The cutter head 4 is shown traveling across the glass sheet from one side of the glass sheet to the other in figs. 1 & 2a (page 7, lines 12 to 21, of appellants' originally filed specification). Flat glass continuously produced in the float process is usually thicker in border regions of the flat glass sheet than in the center region (the so-called net glass) (page 7, lines 23 to 30, of appellants' originally filed specification; fig. 2c). These thickness variations for continuously produced glass sheets are well-known in the art. In the case of a net glass of a thickness of about 2 mm the border regions can have

a thickness of about 3.5 mm.

The claimed steps of independent method claim 29 provide an improved method that achieves the object of the invention, which is to apply a variable cutting force during formation of the fissure or score line in the glass sheet as the cutting tool moves across the glass sheet that is adjusted so that the fissure is sufficient for later mechanical breaking along the fissure or score line, while preventing the premature breaking during cutting to form the fissure (Page 3, lines 16 to 20, of the appellants' specification). If a constant force is applied by the cutting tool as the cutting tool moves from one side of the glass sheet to the other, it would be too great in the net region causing premature breakage if it is sufficiently great to form a satisfactory fissure or score line in the border regions.

According to claim 29 the method of the invention includes moving a cutting tool at an angle to the sheet travel direction across the glass sheet to produce a fissure in the glass sheet (page 3, lines 23 to 26, of appellants' specification) as stated in steps a to c of claim 29. The cutting force used to form the fissure is adapted to the thickness of the glass sheet, in other words the cutting force of the cutting tool is varied according to the thickness as the cutting

tool moves across the glass sheet forming the fissure (page 4, lines 1 to 4, of the appellants' specification as required by step e of claim 29). Thus as the cutting tool crosses the glass sheet from one side to the other during formation of the fissure a greater force is applied in the thicker border regions of the glass sheet than in the net region as stated in step e of claim 29 (page 4, lines 10 to 13, and page 4, lines 19 to 22, of appellants' specification).

After the fissure across the glass sheet is completed the glass sheet is mechanically broken along the fissure as claimed in step f of claim 29 (Page 3, line 27, of appellants' specification).

The glass thickness as a function of position across the glass sheet or in the border regions and then in the net region can be measured as required by step d of claim 29, either in an initial measurement prior to the cutting of the fissure or can be continuously measured at the cutting tool as the cutting tool moves across the glass sheet forming the fissure (page 8, lines 21 to 28, of appellants' specification). These are the two main types of embodiments of the appellants' method covered by the generic claim 29.

The appellants' specification provides support for the wording

“different regions of the glass sheet with different glass sheet thicknesses” in steps b to e of claim 29 in the paragraph between lines 23 and 30, of page 7.

The appellants’ specification provides support for a positive electrical control of the cutting force applied by the cutting tool with a controller at page 4, line 28, to page 5, lines 1 to 5. Page 5, line 30, and page 3, lines 17 to 20, of the appellants’ specification support the step of controlling the cutting forces applied by the cutting tool so that they are sufficient to form the fissure but not so large that they cause uncontrolled breaking during fissure formation. The step of controlling is further supported in appellants’ specification by the disclosures of a a controller with sensors for performing the controlling, which include a position sensor 11 by which the controller knows the lateral position of the cutting wheel as it travels across the glass sheet, which is disclosed on page 9 of appellants’ specification and shown in fig. 3.

B. Dependent Method Claims 30 and 31

Claims 30 and 31 cover the embodiments of the method of claim 29 in which the position of the cutting tool is continuously measured as the cutting tool crosses the glass sheet from one side to the

other and the cutting force is increased or decreased when the cutting tool moves into a thicker or thinner region respectively as determined according to the measured position. These dependent claims are supported by the description of the operation of the controller on page 9, lines 5 to 12, in connection with the disclosure on page 8, lines 21 to 24, of appellants' specification. Page 9, lines 5 to 12, states that the position sensor 11 is used by the controller (fig. 3) to determine when the predetermined switchover points e.g. at the boundaries between the border and net regions are reached so that the cutting force can be increased or decreased in accordance with the explanation on page 8, especially lines 21 to 24, of the appellants' specification.

This embodiment is especially useful for manufacturing a glass sheet of the same nominal thickness in a float glass process in which there are the aforesaid thickness variations but the thickness distribution remains basically the same over a substantial period of time. Then the switchover points do not change substantially with time.

C. Independent Method Claim 34

Claim 34 also covers a method of cutting a continuously moving glass sheet with a cutting tool that encounters different glass sheet

thicknesses in different regions of the glass sheet as it travels across the glass sheet from one side to the other. The cutter head 4 is shown traveling across the glass sheet from one side of the glass sheet to the other in figs. 1 & 2a (page 7, lines 12 to 21, of appellants' originally filed specification). Flat glass continuously produced in the float process is thicker in border regions of the flat glass sheet than in the center region (the so-called net glass) (page 7, lines 23 to 30, of appellants' originally filed specification; fig. 2c). These thickness variations for continuously produced glass sheets are known in the art. In the case of a net glass of a thickness of about 2 mm the border regions can have a thickness of about 3.5 mm.

The claimed steps of independent method claim 34 provide an improved method that achieves the object of the invention, which is to apply a variable cutting force during formation of the fissure or score line in the glass sheet as the cutting tool moves across the glass sheet that is adjusted so that the fissure is sufficient for later mechanical breaking along the fissure or score line, while preventing the premature breaking during cutting to form the fissure (Page 3, lines 16 to 20, of the appellants' specification). If a constant force is applied by the cutting tool as the cutting tool moves from one side of the glass sheet to the other, it would be

too great in the net region causing premature breakage if it is sufficiently great to form a satisfactory fissure or score line in the border regions.

According to claim 34 the method of the invention includes moving a cutting tool at an angle to the sheet travel direction across the glass sheet to produce a fissure in the glass sheet (page 3, lines 22 to 26, of appellants' specification) as stated in steps a and b of claim 34. It is self-evident that the cutting tool would traverse a plurality of positions on the glass sheet. The fact that the cutting force is actively varied as the cutting tool forms the fissure is supported by page 4, lines 8 to 10, of the appellants' specification. The step e of mechanically breaking of claim 34 is supported by page 3, lines 26 to 27, of appellants' specification.

Page 6, lines 4 to 6 and page 8, lines 26 to 28, of appellants' specification support step c of claim 34, which states that during the moving of the cutting tool across the glass sheet and thus during the forming of the fissure glass sheet thickness values are continuously measured.

The final step f of claim 34 of automatically controlling the variable cutting forces so that the fissure formation is sufficient for the

breaking but never so great that premature breaking occurs during fissure formation is fully supported by page 3, lines 16 to 29, which state the object of the invention in one paragraph and then state that it is attained by the steps of the second paragraph.

The method of claim 34 primarily differs from that of claim 29 because according to claim 34 the cutting force forming the fissure is adjusted at the same time that the thickness of the glass sheet is measured (page 6, lines 4 to 6, of the appellants' specification).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(1) Whether claims 29 to 35 are unpatentable under 35 U.S.C. 103
(a) over U.S. Patent 3,880,028, (W. Fredrick, Jr.), in view of U.S.
Patent 3,756,104, (D. A. Bier, et al), and U.S. Patent 5,744,776,
(D. J. Bauer).

VII. ARGUMENTATION

The following arguments show that the combined subject matter of U.S. Patent 3,880,028, (W. Fredrick, Jr.), U.S. Patent 3,756,104, (D. A. Bier, et al), and U.S. Patent 5,744,776, (D. J. Bauer) does not establish the *prima facie* obviousness of pending claims 29 to 35.

According to page 3 of the final Office Action mailed February 18, 2010 Fredrick Jr. does not teach the features and limitations of steps (c), (e) and (g) of independent method claim 29 and presumably also steps d) and f) of independent method claim 33, i.e. that the cutting force applied to the glass sheet to score or form a fissure in the glass sheet is increased when its thickness is increased and is decreased when its thickness is increased. The second paragraph on page 3 of the final Office Action is quoted here:

“Fredrick does **not** teach steps (c), (e) and (g) [of claim 29] which are to apply a variable cutting force on the glass sheet wherein the cutting force is increased where the variable thickness increases and the cutting force is decreased where the variable thickness decreases, and the controlling variable cutting force so that the glass sheet is not damaged during the cutting process.” {boldface for emphasis was added}.

The final Office Action then cites the U.S. Patent of D. A. Bier, et al, for teaching that the cutting force is increased when the thickness increases and the cutting force is decreased when the thickness decreases.

However whether or not D.A. Bier, et al, disclosed the subject matter of steps (c), (e) and (g) of method claim 29 was previously considered during examination of the claims and the arguments in the amendment filed on August 7, 2008. Substantially the same features and limitations were present in steps (c) and (d) and the last paragraph in the independent method claim 22, which was present in the amendment filed on August 7, 2008 and examined according to the Office Action mailed on October 7, 2008.

Although the Office Action mailed on October 7, 2008 is silent regarding the prior anticipation rejection based on the disclosures of D. A. Bier, et al, the anticipation rejection based on the disclosures of D.A. Bier, et al, was not applied to independent claim 22 filed in the amendment filed on August 7, 2008 , which contained substantially the same the distinguishing limitations now present in steps (c), (e) and (g) of method claim 29. Instead the Office Action mailed on October 7, 2008 only includes a single anticipation rejection based on the U.S. Patent of W. Fredrick, Jr.

The legal principle of *res judicata* should apply here. M.P.E.P. 706.03 (w) clearly states that a claim filed in a subsequent continuing application can be rejected on the grounds of *res judicata* on the basis of a rejection of a claim containing the same subject matter in an earlier filed application, which was not overcome during prosecution of the earlier filed application. Several U.S. Court decisions are cited to support this opinion in M.P.E.P. 706.03 (w). Fairness and simple logic requires that a rejection based on *alleged* disclosures in a prior art reference should not be repeated during a later stage in the prosecution, when it has been established earlier during prosecution that the *alleged* disclosures were not present in the prior art reference and because of that an earlier anticipation rejection based on that prior art reference was withdrawn. Since the applicants' claim 22 was not rejected as anticipated by the disclosures in the U.S. Patent of D. A. Bier, et al, it has essentially been admitted on the record that the U. S. Patent of D. A. Bier, et al, does not disclose the critical limitations of applicants' claimed method of both claim 22 and now claim 29, namely that the cutting force applied to the glass sheet to score or form a fissure in the glass sheet is increased in regions or areas in which its thickness increases and is decreased in regions or areas in which its thickness decreases.

Regarding the relevant subject matter of A.D. Bier, et al, the paragraph bridging pages 3 and 4 of the final Office Action contends that A.D. Bier, et al, teach that the cutting force is increased when the thickness of the glass sheet increases and that the cutting force is decreased when the thickness decreases and makes reference to the abstract and figures 1 to 3. Figures 1 to 3 of A.D. Bier, et al, show an apparatus for scoring or cutting the glass sheet to form a score or fissure, in which a cutter head 40 is driven by a constant reluctance motor 6. This apparatus does respond significantly faster than prior art apparatus that use a mechanical means, such as a spring, to apply the cutting force so that the cutting force can be changed significantly more rapidly than in the prior art. But these figures do not teach anything regarding the relationship of the thickness of the glass sheet to the size of the cutting force. The abstract teaches that score lines of a predetermined depth can be obtained with the apparatus of A.D. Bier, et al, (e.g. a constant depth would be a predetermined depth but Bier, et al, does not even teach a score or fissure of constant depth) – despite thickness variations. Furthermore the depth of the score line is not the same as the thickness of the glass sheet and not related to it, except that the depth cannot be larger than the thickness.

Bier does not teach or suggest any specific relationship between the thickness of the glass sheet and the size of the cutting force applied to it. Column 1, lines 32 to 55, explain that glass sheet with a thickness of 2 to 10 millimeters may have thickness variations of a few thousandths of an inch, but that such thickness variations still result in undesirable variations in the depth of the fissure or score, especially produced by prior art mechanical scoring devices. However this paragraph does not explicitly state that the depth of the fissure or score should be kept constant during scoring of a glass sheet with thickness variations (but again the depth of the score is not the same as the thickness of the glass sheet). The background section of column 1 of A. D. Bier, et al, only states that the prior art scoring devices for automatically scoring a glass sheet do not respond fast enough to control the depth of scoring so that an improved scoring apparatus with a faster reaction time is desirable.

Thus the claims and description of A.D. Bier, et al, primarily describe and claim the improved scoring or cutting apparatus of Bier and teach that it can rapidly respond to electronic commands to vary the scoring depth according to any proposed program of scoring. An example is provided in column 3 of Bier, in which a

blank for a windshield is cut out of a glass sheet. Bier teaches that the cutting force should be increased at the corners of the cutting pattern (column 4, lines 49 to 52) in order to increase the scoring depth at the corners of the pattern so that it is easier to break the glass sheet to obtain the windshield blank. However the program for scoring the glass sheet to make the windshield blank does not take into account any thickness variations in the glass sheet; the program does not vary cutting force depending on the thickness variations.

Although Bier does disclose that the scoring or cutting force should not be so great that it prematurely breaks the glass sheet (column 3, line 62 to 64), Bier never states that the cutting force should be increased as the thickness of the glass sheet increases or that it should be decreased as the thickness of the glass sheet decreases. Bier never discloses varying the cutting force when a glass sheet is scored or cut in a manner than depends on the thickness variations across the glass sheet.

Thus it is respectfully submitted for the above-described reasons that A.D. Bier, et al, does not contain sufficient disclosure to suggest or teach the modifications of the primary reference, W. Fredrick, Jr, which are necessary to arrive at the method as

claimed in independent method claim 29, especially including steps (c), (e) and (g) and in independent claim 34.

Turning to Bauer, this prior art reference also does not explicitly disclose the critical features and limitations of steps (c), (e) and (g) of independent method claim 29 and also steps d) and f) of independent method claim 33.

Bauer discloses a method for scoring an inside of an automobile trim piece (a cover for an airbag), which comprises preweakening (scoring) the trim piece with a laser beam of sufficient power to partially penetrate the trim piece material and guiding and controlling the laser to produce a groove in the trim piece material of a precise depth (column 3, lines 30 to 38; abstract). The laser can be a CO₂ laser (column 5, line 44). An apparatus for performing the method is provided as described in the detailed description and shown in the figures, especially figs. 1 to 3, of Bauer. Furthermore the method of Bauer does not include the step of breaking the trim piece after scoring as in claims 29 and 33. Bauer does disclose that the groove depth is controlled so that the remaining material in the groove after scoring has a constant thickness along the groove (column 3, lines 38 to 44; column 2, lines 27 to 35; column 7, lines 3 to 5; and claims 7, 18 and 22,

especially column 7, lines 43 to 50). The disclosure in columns 2 and 3 does not indicate that this latter feature is an optional feature or preferred embodiment. It is an essential feature because of the airbag application. The thickness of the remaining material in the groove must be uniform and determines the force that the airbag must exert to break out of the cover during an accident (see the preamble of claim 1 of Bauer and column 2, lines 27 to 35 and column 7, lines 43 to 50).

However Bauer does not explicitly state that the scoring or cutting force is increased when the thickness of the sheet increases, and *vice versa*. Thus Bauer does not teach the features of claims 29 and 33.

Furthermore automobile trim pieces are not made of glass material, but instead are made of plastic. Glass is notoriously more difficult to cut without chipping, breaking or fracturing in comparison to plastic materials. It would not be predictable under 35 U.S.C. 103 (a) that the same method of measuring thickness of an automobile trim piece (by ultrasonic sensors) to sufficient precision for a cover for an airbag could also be used to measure the thickness variations of a piece of glass.

Predictability is an important aspect of any obviousness rejection (see M.P.E.P. 2143).

Besides, Fredrick Jr teaches that the ultrasonic signal intensities from the glass depend on several other factors besides the thickness of the glass. Fredrick Jr discloses in column 5 that the glass thickness is only one factor that determines ultrasonic signal intensity. Other factors that are more important are the hardness of the glass and the scoring speed according to column 2. Fredrick Jr teaches chipping during scoring is a problem at column 4, line 41, which would at least not be as significant a problem with the plastics of Bauer.

No prior art references have been placed in the record that teach that the thickness of a glass sheet can be measured at a point or that thickness variations of a glass sheet can be measured with an ultrasonic sensor. Thus it has not been established on the record that thickness of a glass sheet can be precisely and reliably measured with an ultrasonic sensor during cross-cutting

In the case of some methods of manufacture thickness variations of a glass sheet may be quite small, as noted above according to A.D. Bier, et al. In the absence of a prior art reference that clearly teaches precise measurement of such thickness variations of a

glass sheet via an ultrasonic sensor, the prior art evidence currently on the record does not **compel** a conclusion of *prima facie* obviousness in accordance with the standard set forth in 37 C.F.R. 1.56.

The accuracy and precision by which the thickness of the usually plastic material of the trim piece is measured by the ultrasonic sensors 46, 56 of Bauer are not discussed in their specification. Thickness variations of a glass sheet can be measured very accurately by optical means. Generally precision is limited by the wavelength of the radiation or sound used in the measurements. It has not been established on the record that an ultrasonic pickup could precisely measure variations in thickness of a glass sheet immediately after its manufacture, since such thickness variations may be small.

Similarly many problems involved in cutting a glass sheet are not present when a plastic material is cut. Glass is a brittle material which is easily fractured and chipped, while plastic does not have this problem especially to the same extent.

Thus it is respectfully submitted that Bauer does not provide sufficient evidence that the thickness variation of a glass sheet

during manufacture can be accurately and precisely measured by ultrasonic means.

Regarding the standards of establishing *prima facie* obviousness under 35 U.S.C. 103 (a) U.S. Patent Office rules state the following:

“A *prima facie* case of unpatentability is established **when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.” 37 C.F.R. 1.56 (b) (2) ii**

It is respectfully submitted that the burden of proving that thickness variations of a glass sheet formed in glass manufacture can be precisely measured by means of an ultrasonic sensor has not been met and sufficient disclosures of the prior art to establish *prima facie* obviousness of independent claims 29 and 33 have not yet been placed in the record.

In addition, Fredrick Jr leads one skilled in the art away from using an ultrasonic probe to measure thickness of a glass sheet during scribing or cutting the glass sheet, because Fredrick Jr does not

use the ultrasonic probe 30 for that purpose and teaches the signal intensity depends primarily on other facts besides thickness.

Teaching from a prior art reference that leads away from a claimed invention should also be given weight (M.P.E.P. 2145 X and the above-cited Federal Court quotation).

For the aforesaid reasons Honorable Board of Patent Appeals and Interferences is respectfully requested to overturn the rejection of claims 29 to 35 as unpatentable under 35 U.S.C. 103 (a) over U.S. Patent 3,880,028, issued to Fredrick, Jr., in view of U.S. Patent 3,756,104, (D. A. Bier, et al), and U.S. Patent 5,744,776, (D. J. Bauer).

VIII. APPENDIX OF CLAIMS

A clean copy of the pending claims on appeal follows herein below.

29. A method of cutting a continuously moving glass sheet during production of flat glass with an inhomogeneous thickness distribution across the glass sheet, said method comprising the steps of:

- a) providing a moving glass sheet that is continuously moving in a travel direction;

- b) moving a cutting tool across the moving glass sheet at an angle to the travel direction of the moving glass sheet so that the cutting tool traverses different regions of the glass sheet with different glass sheet thicknesses;

- c) during the moving of the cutting tool across the moving glass sheet over said different regions of said glass sheet, applying different cutting forces to the moving glass sheet in said different regions of the glass sheet so that a fissure is formed in the glass sheet;

- d) measuring said inhomogeneous thickness distribution across the glass sheet to determine said different thicknesses in said different regions; and

e) during the moving of the cutting tool across the moving glass sheet to form said fissure, adjusting the different cutting forces applied to said moving glass sheet in said different regions according to said different thicknesses of said glass sheet in said different regions determined during said measuring of step d), so that said different cutting forces are increased when said different thicknesses increase and said different cutting forces are decreased when said different thicknesses decrease; and then

f) mechanically breaking the glass sheet along the fissure;

g) controlling said different cutting forces applied by said cutting tool in said different regions so that said different cutting forces are sufficient to form said fissure but not so large as to cause uncontrolled breaking of said glass sheet during formation of the fissure prior to the mechanically breaking.

30. The method as defined in claim 29, further comprising detecting a position of the cutting tool continuously with a position sensor during the moving of the cutting tool across the glass sheet and, depending on the position of the cutting tool, applying an appropriately adapted cutting force in one of said regions of the glass sheet having a constant thickness and applying another cutting force increased or decreased in relation to the appropriately adapted cutting force in another of said regions of said glass sheet

having respectively greater or smaller thickness than in said one of said regions.

31. The method as defined in claim 29, further comprising applying appropriately adapted cutting forces to the glass sheet with the cutting tool according to position-dependent switchover points predetermined in a fixed manner in a controller for controlling the different cutting forces applied to the glass sheet, and wherein said controller is connected with a position sensor for detecting a position of the cutting tool in order to determine when said cutting tool reaches said switchover points.

32. The method as defined in claim 29, further comprising providing a controller and applying said different cutting forces actively specified by said controller according to externally input control commands.

33. The method as defined in claim 29, further comprising determining said different cutting forces applied to said glass sheet in said different regions of said glass sheet with a controller in a fixed manner as a function of an initial measurement of said inhomogeneous thickness distribution across the glass sheet, so as

to adapt said different cutting forces automatically to said different thicknesses in said different regions of the glass sheet.

34. A method of cutting a continuously moving glass sheet during production of flat glass with an inhomogeneous thickness distribution across the glass sheet, said method comprising the steps of:

- a) providing a moving glass sheet that is continuously moving in a travel direction;

- b) moving a cutting tool across the moving glass sheet at an angle to the travel direction of the moving glass sheet so that the cutting tool traverses a plurality of positions on the glass sheet;

- c) during the moving of the cutting tool across the moving glass sheet, continuously measuring respective glass sheet thickness values of the moving glass sheet;

- d) during the moving of the cutting tool across the moving glass sheet, applying variable cutting forces to the moving glass sheet at corresponding points of contact of the cutting tool with the glass sheet so that a fissure is formed in the glass sheet;

- e) mechanically breaking the glass sheet along the fissure;

and

- f) automatically controlling said variable cutting forces applied by the cutting tool at said corresponding points of contact

of the cutting tool with the moving glass sheet so that said variable cutting forces vary according to said respective glass sheet thickness values at said points of contact and are sufficient to form said fissure but not so large as to cause uncontrolled breaking of said glass sheet during formation of the fissure prior to the mechanically breaking.

35. The method as defined in claim 34, further comprising the step of providing a controller with means for adjusting the variable cutting forces at said corresponding points of contact of the cutting tool with the glass sheet, and wherein the controller automatically controls said variable cutting forces applied at said corresponding points of contact with the glass sheet so that said uncontrolled breaking of said glass sheet is prevented during the formation of the fissure and prior to the mechanically breaking.

IX. EVIDENCE APPENDIX

NONE

X. RELATED PROCEEDINGS

NONE

XI. SIGNATURE

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,

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